

## EXHIBIT A

Date Prepared: March 1, 2007

## Curriculum Vitae

**Name & Title:** **Herman Ford Staats, Ph.D.**  
Associate Professor in Pathology (with tenure)  
Associate Professor of Immunology  
Associate Professor of Medicine

**Address:** Department of Pathology  
Box 3712 (regular mail)  
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### Personal

**Place:** Dover, Delaware  
**Citizen:** United States

### Education:

1979-83 Sussex Central High School, Georgetown, DE  
1984-88 BS Salisbury University, Salisbury, MD (Bachelor of Science in Medical Technology)  
1988-92 PhD University of South Alabama, Mobile, AL  
Doctor of Philosophy in Basic Medical Sciences (Microbiology and Immunology)

### Professional Training:

#### Post-Doctoral Research Training:

1992-93 Univ. of Alabama at Birmingham; NIH Training Grant Postdoctoral Fellow; Mucosal Immunology  
1993-95 Duke University Medical Center; NIH Training Grant Postdoctoral Fellow; Mucosal HIV Vaccines  
1995-96 Duke University Medical Center; Research Associate; Mucosal HIV Vaccines

### Clinical & Academic Career:

#### University Appointments:

1996 – 03 Assistant Research Professor, Departments of Medicine and Immunology, DUMC (non-tenure track)  
1999 – 03 Assistant Research Professor, Department of Pathology, DUMC (non-tenure track)  
2003 – 5/2006 Assistant Professor in Pathology (DUMC; tenure track)  
Assistant Professor of Immunology (DUMC)  
Assistant Professor in Medicine (DUMC)  
5/2006- 8/2006 Associate Professor in Pathology (with tenure, DUMC)  
Assistant Professor of Immunology (DUMC)  
Assistant Professor in Medicine (DUMC)  
8/2006- Present Associate Professor in Pathology (with tenure, DUMC)  
Associate Professor of Immunology (DUMC)  
Assistant Professor in Medicine (DUMC)  
1/2007 - Present Associate Professor in Pathology (with tenure, DUMC)  
Associate Professor of Immunology (DUMC)  
Associate Professor of Medicine (DUMC)

#### **Other Professional Positions & Major Visiting Appointments:**

- 2000 – 02      Adjunct Assistant Professor, Dept. of Microbiology, Parasitology and Pathology  
North Carolina State University, College of Veterinary Medicine, Raleigh, NC (Dept dissolved in 2002)
- 1/2006-Present      Assistant Professor, Department of Population Health and Pathobiology (College of Veterinary Medicine,  
Department of Population Health and Pathobiology, North Carolina State University)

#### **Consultant Appointments**

- 2000 – 01:      Consultant for vaccine adjuvant technology, Fort Dodge Animal Health, Fort Dodge, Iowa.

#### **Licensure & Certifications:**

- 1988      Medical Technologist (MT), American Society of Clinical Pathologists (ASCP)

#### **Professional Awards & Special Recognitions**

##### **Awards & Honors:**

- 1998      Davison Award for Teaching, Duke University School of Medicine
- 1998      Henry N. Neufeld Memorial Award (given by the United States – Israel Binational Science Foundation to the most outstanding and original BSF supported project in the health sciences)

##### **Editorial Boards:**

- 1996 – 2004      Editorial Board, AIDS Research and Human Retroviruses
- 1997 – 99      Editorial Board, Infection and Immunity
- 2000 – 2004      Associate Editor, Journal of Immunology
- 2001- Present      Editorial Board, Current HIV Research
- 2006 – Present      Section Editor, Journal of Immunology

##### **Peer Reviewer:**

- 1993 – 96      Ad hoc reviewer, Infection and Immunity
- 1996 – Present      Ad hoc reviewer, Vaccine
- 1996 – Present      Ad hoc reviewer, Journal of Virology
- 1997 – 2000      Ad hoc reviewer, Journal of Immunology
- 2004 – June 2006      Ad hoc reviewer, Journal of Immunology
- 1997 – Present      Ad hoc reviewer, Journal of Infectious Diseases
- 1998 – Present      Ad hoc reviewer, Cellular Immunology
- 1999 – Present      Ad hoc reviewer, Emerging Infectious Diseases
- 2000      Ad hoc reviewer, Nature Medicine
- 2005      Ad hoc reviewer, Journal of Pharmaceutical Sciences

#### **Organizations & Participation**

##### **Memberships, Offices & Committee Assignments in Professional Societies:**

- 1986 – Present      member, American Society for Microbiology
- 1995 – Present      member, Society for Mucosal Immunology
- 1997 – Present      member, American Association of Immunologists

##### **Other Professional Positions Nationally & Major Visiting Appointments:**

- 2000 – 05      Member, Morehouse School of Medicine External Advisory Committee for Research Center for Minority-Institutional Grant.

##### **University Services**

###### **Before Duke**

- 1991-92      President, Basic Sciences Graduate Student Organization, College of Medicine, University of South Alabama, Mobile, AL
- 1990-91      Graduate Student Representative to the Graduate Admissions Committee, College of Medicine, University of South Alabama, Mobile, AL

**Duke University & Duke Health Care System**

2003-Present	Department of Pathology, Cellular and Molecular Biology training program admissions committee
2003-Present	Department of Pathology graduate program admissions committee
2004-Present	Department of Pathology representative to the Basic Sciences Faculty Steering Committee
2006-Present	Department of Pathology, Alternate to Institutional Animal Care and Use Committee

**Other services****Grant Review:**National Institutes of Health ad hoc grant/contract review:

1998	Participant, "Design of phase I/II gonorrhea vaccine trials" Workshop, NIAID, NIH
2000	Member, NIH NIAID Study Section, RFA AI-99-011, "Innovative Research In Human Mucosal Immunity"
2001 – 04	Member, NIH Center for Scientific Review Special Emphasis Panel Study Section, Council ZRG1 SSS-F 01, Innate Immunity and Host Defense.
2003	Member, ZRG1 BM-2 90 S, Bacterial Pathogenesis and Biodefense Study Section
2003	ZRG1 SSS-F 05 S, Immunity in Biodefense Study Section
2004	Member ZAI1 PA-1 contract review team; Innate Immune Receptors and Adjuvant Discovery
2004	Member ZRG1 IMM-F 06 S Study Section; Topics in Gut and Brain Innate Immunity
2004	Member, AARR-C 02 Study Section, Immunity and Pathogenesis in AIDS
2005	Subcommittee review of Regional Centers of Excellence in Biodefense and Emerging Infectious Diseases, (RFA AI-04-018)
2005	Member, ZDK1 GRB-2 (M3) Study Section; Mouse Genetics and IBD
2005	Member, ZRG1 F07 20L Study Section; Immunology Fellowship and AREA (June 2005; October 2005)
2005	Member, ZRG1 III-F 01 Q, Innate Immunology and Inflammation (October 9-10, 2005)
2006	Member, ZRG1 III, Innate Immunology and Inflammation (June 29-30, 2006)
2006	Member, HIV VACC, HIV/AIDS Vaccines study section (VACC) (November 16, 2006)
2007	Member, review panel ZAI1 CCH-M (M1) - Cooperative Research Partnerships for Influenza Product Development (January 24-25, 2007)

Israel Science Foundation:

2002 - 03	Ad hoc grant reviewer
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Crohn's & Colitis Foundation of America:

2003	Grant reviewer for RFA "Identification of the Microbial Antigens and Adjuvants that Activate Innate and Adaptive Immune Responses in the Intestine"
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**Meeting Moderator**

2004	Moderator, "Mucosal Immunotherapy for the Treatment of Allergic Diseases" at Annual Meeting <i>American Association of Asthma, Allergy and Immunology</i>
2006	Co-chair <i>Mucosal Immunity / Preclinical Studies</i> , HIV Vaccines Meeting, March 31, 2006, Keystone Colorado

**Thesis Advisory Committees:****Duke University**

2000- 04	James McLachlan (laboratory of Dr. Soman Abraham; Dept. of Pathology)
2002-06	Andrew Dufresne (laboratory of Dr. Matthias Gromeier; Dept. of Mol. Genetics and Microbiology)
2002 – 2006	Deanna Carrick (laboratory of Dr. Chris Nicchitta, Dept. of Cell Biology)
2002-05	Ali Johnson (laboratory of Dr. Meta Kuehn; Dept. of Biochemistry)
2003-06	Jennifer Lin (laboratory of Dr. Bryan Cullen; Dept. of Mol. Genetics and Microbiology)
2004- present	Rhea Brooking (laboratory of Dr. Soman Abraham, Dept. of Pathology)
2004- present	Quintin Quinones (laboratory of Dr. Salvatore Pizzo, Dept. of Pathology)
2004-present	Ryan Anderson (laboratory of Dr. Salvatore Pizzo, Dept. of Pathology)
2006-present	Anna P. Lillis (laboratory of Dr. Salvatore Pizzo, Dept. of Pathology)

# **The University of North Carolina at Chapel Hill**

- 2003-present Joseph Thompson (laboratory of Dr. Robert Johnston, Dept. of Microbiology and Immunology)
- 2004- 2007 Robert Garmise (laboratory of Dr. Anthony Hickey; School of Pharmacy, Division of Drug Delivery and Disposition)
- 2005-present Anna LoBue (laboratory of Dr. Ralph Baric, Department of Microbiology and Immunology)

## **North Carolina State University College of Veterinary Medicine**

- 2005-2006 Sudha Kakarla (laboratory of Dr. Gregg Dean, Dept. of Molecular Biomedical Sciences)

## **Teaching Responsibilities**

### **Teaching/Speaker Experience**

#### **National & International (Invited Presentations)**

1. Mucosal immunity to infectious diseases: Implications for HIV vaccine development. Medical Grand Rounds, Department of Veterans Affairs Medical Center, Boise, Idaho, 1995.
2. Novel Approaches for the Development of Mucosal Vaccines, Mucosal Immunology in the 21st Century meeting, Orange Beach, A, 2001.
3. Mucosal adjuvants for HIV vaccines, in AIDS Vaccine Research Committee (AVRC) symposium "Moving Biological Adjuvants into Clinical Trials", NIH, Bethesda, 2002
4. Induction of protective immunity with needle-free nasal immunization, at "Advanced Topics in Immunology" seminar, George Washington University, Washington, D.C., 2004.
5. Preclinical evaluation of IL-1 as an adjuvant for nasally administered vaccines, Istituto Superiore Di Sanita, Rome, Italy, 2004.
6. Preclinical evaluation of cytokines as adjuvants for mucosal vaccines, Microbiology/Immunology Seminar Series, Dartmouth Medical College, 2005.
7. Delivery of vaccine without needles: Strategies to develop nasally-administered vaccines , Indian Statistical Institute, 203 B.T. Road, Kolkata 700108, INDIA
8. Nasal Vaccines for Anthrax. The adjuvant makes the difference. Presented at the Rocky Mountain Laboratory, NIAID/NIH, Oct. 22, 2005.
9. Adjuvants for mucosal vaccines. Lecture presented to graduate students, Montana State University, February 6, 2006.
10. Nasal Vaccines for Anthrax. The adjuvant makes the difference. Presented to students and faculty, Montana State University, February 7, 2006.
11. Secretory IgA and HIV-1 Vaccines. Presented as a plenary session talk, HIV Vaccines, March 29, 2006 Keystone Resort, Keystone, Colorado.
12. Adjuvants and formulations for nasally-administered vaccines: Mechanisms of Action. Special Seminar, Department of Microbiology and Immunology, The University of Alabama at Birmingham, Birmingham, AL, August 10, 2006.

#### **Local (Invited Presentations)**

1. Characteristics of antibody-mediated prevention of herpes simplex virus-induced ocular disease. Presented at the University of South Alabama College of Medicine Department of Ophthalmology Grand Rounds teaching session. August, 1992.
2. Induction of serum and vaginal anti-HIV-1 antibody responses after intranasal immunization with the C4/V3 peptide TISP10MN(A). Presented at the Mucosal Immunology Conference Series, University of Alabama at Birmingham, Immunobiology Vaccine Center, September 29, 1994.
3. Mucosal immunity to infectious diseases: Implications for HIV vaccine development. Presented at the Infectious Disease Conference, Department of Medicine, Division of Infectious Diseases, Duke University Medical Center, May 15, 1994.
4. HIV vaccine development. Presented at the Howard Hughes Precollege Program in the Biological Sciences, Duke University, June 21, 1995.
5. Intranasal immunization with peptide immunogens. Presented at the North Carolina State University Veterinary College, Mucosal Immunology Discussion Group, November 6, 1997.
6. Mucosal vaccines for HIV and cancer. Presented at the East Carolina University School of Medicine for The Department of Microbiology and Immunology Seminar Series. Tuesday, October 5<sup>th</sup>, 1999.
7. Vaccination Strategies for the Induction of Mucosal Immunity against HIV. Presented to the Triangle Virology Group, December 1, 1999 at BAYER Corporation building, North Carolina State University Centennial Campus.

## Teaching Responsibilities

### Teaching/Speaker Experience

#### Local (Invited Presentations; continued)

8. Nasal vaccination strategies for the induction of Humoral and Cell-Mediated Immunity to HIV. Presented at the North Carolina State University Veterinary College, Immunology Seminar Series, October 9, 2000.
9. Cytokines as Mucosal Adjuvants for the Induction of Systemic and Mucosal Immune Responses. Presented at GlaxoWellcome, Biotechnology Product Development, Research Triangle Park, NC, November 17, 2000.
10. Cytokine Adjuvants for Nasally Administered Vaccines. Presented at the Respiratory Biology seminar series, Duke University Medical Center, March 5, 2003.
11. Needle-free Immunization. The possibilities and potential pitfalls of nasal immunization. Presented at the Biology Departmental Seminar Series, University of North Carolina at Charlotte, November 21, 2003.
12. Gender differences in HIV-1-specific CD8 responses in the murine reproductive tract and colon following immunization. Presented at the Departmental Seminar, February 10, 2005, Department of Microbiology and Immunology, The University of North Carolina at Chapel Hill.
13. Immunization strategies for the induction of HIV-1-specific immune responses in systemic and mucosal compartments. Presented at the Triangle Virology Meeting, February 15, 2005.
14. Nasal Vaccines for Anthrax. The adjuvant makes the difference. Presented at the NCSU College of Veterinary Medicine Fall 2005 Immunology/Microbiology Seminar Series. Oct. 24, 2005.
15. TLR ligands as adjuvants for nasally-administered vaccines: Some are better than others. Presented at the Immunology Seminar Series, Department of Immunology, Duke University Medical Center, September 26, 2006.
16. The Mucosal Immune System: Its role in homeostasis of the host. Presented at the Pediatric Allergy/Immunology Fellows Wednesday Conference, Duke University Medical Center, January 17, 2007.

#### Laboratory Instruction

1997 – 98	Francis Anthony Ennis, 3 <sup>rd</sup> year medical student
1997 – 99	Dr. Curtis P. Bradney, Postdoctoral Fellow
1997 – 99	Kevin L. Farmer, Duke Undergraduate
1999 – 01	Neil Sparks, NC State Masters student
1999 – 00	Andrea Bullock, Duke Undergraduate
1999 – 00	Caleb Schultz, Duke Undergraduate
2000 – 01	William Gwinn, Duke Graduate Student, Dept. of Pathology
2000 – 02	Cathy Doil, Duke Undergraduate
2000 – 01	Karen Gondro, Duke Undergraduate
2001 – 03	Dr. Shila K. Nordone, Postdoctoral Fellow
2005- Present	Ashley Sobel, Duke Undergraduate & HHMI summer research fellow
2005 – Present	Afton McGowen, Duke Graduate Student, Department of Pathology
2006 – Present	Nicole Paraggio, Duke Graduate Student, CMB Program
2006 – Present	Dr. William Gwinn, Postdoctoral Fellow

#### Duke Medical School Courses

2005 - Present	Lecturer, Duke University School of Medicine, <i>Body and Disease</i> Course; presented lecture on Bioterrorism and Emerging Infections
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#### Graduate School Courses DUMC

1998 - Present	Lecturer, Duke University <i>Immunology 291</i>
2000 - Present	Lecturer, Duke University <i>Pathology 385</i>

## Principal Academic & Administrative Activities:

Laboratory research

Instruct undergraduate and graduate students in laboratory research

Instruct postdoctoral fellows in laboratory research

Instruct graduate students in classroom lectures

Instruct graduate students as member of thesis committee

## **Grant & Contract Support**

### **Completed**

Staats, Herman F. (Project Leader)  
NIH 5 U01 AI35351-04 (B.F. Haynes)  
Peptide immunogens for mucosal and systemic HIV vaccines. Project 1.  
12/15/93 – 11/30/97  
\$152,321 (33.3%) (Annual costs)

Staats, Herman F. (Project Leader)  
DOD DAMD17-94-J-4467 (B.F. Haynes)  
Structural and Functional Studies of Experimental HIV Synthetic Peptide Immunogens  
9/30/94 – 3/31/99  
\$33,980 (25%) (Annual costs)

Staats, Herman F. (Principal Investigator)  
American Cancer Society Institutional Research Grant  
Protection against tumor development in the lung by intranasal immunization with peptides corresponding to tumor antigen CTL epitopes  
1/1/97 - 12/31/97  
\$12,500 (0% effort) (Annual costs)

Staats, Herman F. (Principal Investigator)  
Genetics Institutes, Cambridge, MA  
Intranasal immunization with CTL epitope peptides and IL-12 for the induction of enhanced CTL activity  
6/1/97 - 5/31/98  
\$46,200 (0%) (Annual costs)

Staats, Herman F. (Co Core Leader)  
NIH 2 P30 AI28662 (D. Bolognesi)  
Center For AIDS Research; Peptide Synthesis Core A  
7/1/94-6/30/99  
\$94,002 (8%) (Annual costs)

Staats, Herman F. (Principal Investigator)  
Fort Dodge Animal Health  
Unrestricted research gift to cover direct costs of research.  
Donated 2/22/2000  
\$35,000 (0%) (Annual costs)

Staats, Herman F. (Principal Investigator)  
CISTRON Biotechnology  
Safety and efficacy of IL-1 $\beta$  as a Vaccine Adjuvant  
9/1/98 – 12/31/99  
\$125,879 (0%) (Annual costs)

Staats, Herman F. (Principal Investigator)  
AVENTIS Pasteur  
Unrestricted gift to cover direct costs of research  
1/2/2000 – 1/1/2001  
\$30,000 (0%) (Annual costs)

## **Grant & Contract Support Completed**

Staats, Herman F. (Principal Investigator)  
U.S. – Israel Binational Science Foundation  
Immunotherapy of lung metastases using cholera toxin-based mucosal vaccines.  
9/1/98 – 10/31/2003  
\$55,000 (0%) (Annual costs)

Staats, Herman F. (Co-investigator)  
NIH RFP NIH-NIAID-DAIDS-00-10 (Dr. John Eldridge, P.I.)  
HIV Vaccine Design and Development Teams  
3/1/00 – 2/28/05  
\$259,570 (25%) (Annual costs)

Staats, Herman F. (Project Leader)  
NIH/NIAID PAR-97-056 (Dr. Barton Haynes, P.I.)  
Design of Novel Immunogens and Adjuvants for HIV Vaccines  
(Project #1, Mucosal Immunization with HIV/SIV Vaccines, H.F. Staats P.I.)  
4/1/99 – 3/31/04  
\$190,000 (40%) (Annual costs)

Staats, Herman F. (Co-investigator)  
NIH N01-AI85343 (Montefiori/Letvin)  
Primate Immunology Laboratory for AIDS Vaccine Research and Development  
7/1/98 – 6/30/04  
\$259,570 / 15% (Salary Support Only for Dr. Staats) (Annual costs)

Staats, Herman F. (Principal Investigator)  
NIH R21 AI52027-01 (Herman Staats)  
Epitope specificity of vaccine-induced anti-HIV IgG and IgA  
1/01/2003 – 12/31/2003  
\$125,000 (20%) (Annual costs)

Staats, Herman F. (Co-investigator)  
NIH/NIAID 2 P01 AI43649-05 (David Montefiori)  
HIV RAD: Structural Approaches to Vaccine Development; Core C  
09/30/02 – 7/31/2003  
\$174,327 / 10% (Annual costs)

Staats, Herman F. (Co-Investigator)  
NIH/NIAID 1 R21 AI054175-01 (Gao, Feng)  
Immunogenicity of an HIV virus-like particle vaccine  
2/1/03 – 1/31/05  
\$231,000 / 10% (Annual costs)

Staats, Herman F. (Co-investigator)  
NIH 1 R21 DE016404-01 (Dr. Laura P. Hale, P.I.)  
Novel oral adjuvant for dental vaccines  
12/1/04-11/30/06  
\$200,000 (9%) (Annual costs)



## Grant & Contract Support

### Current

Staats, Herman F. (Project Leader)

NIH U19 AI56572-01 (Micheal Dee Gunn, M.D., P.I.)

Novel TLR Ligand Mimetics as Adjuvants and Therapeutics (Project 1, Anti-TLR antibodies as select agent vaccine adjuvants, H.F. Staats P.I.)

07/01/03- 06/30/08

\$178,893 (20%) (Annual costs)

Staats, Herman F. (Principal Investigator)

NIH 1 R21 AI064185-01 (Herman F. Staats, P.I.)

Mast cell activator as adjuvant for biodefense vaccines

04/01/05- 03/31/07

\$200,000 (15%) (Annual costs)

Staats, Herman F. (Co-investigator)

NIH RFP-NIH-NIAID-DAIT-BAA-04-18 (D. Wagener)

Population Genetics Analysis Program: Immunity to Vaccines/Infections

9/30/04 – 9/30/09

\$149,407 (15%) (Annual costs)

Staats, Herman F. (co-investigator)

NIH Foundation (Gates Foundation Grand Challenges in Global Health)

Surface modified nanostructures as delivery vehicles for vaccines

7/1/05-6/30/08

\$19,452 (H.F. Staats 2% effort) (Annual costs)

Staats, Herman F. (Principal Investigator)

NIH 1 RO1 AI064879-01 (H.F. Staats, P.I.)

Nasal Vaccines: Mode of Action, Composition and Delivery

12/1/05 – 11/30/10

\$365,132 (35%) (Annual costs)

Staats, Herman F. (Principal Investigator)

NIH 5U54-AI-057157-05 SUB #22

Novel Vaccine Platform and Adjuvants for Biodefense

3/01/07 – 2/28/08

\$67,000 (Annual costs)

## Patents

### Issued:

1. Substantially non-toxic biologically active mucosal adjuvants in vertebrate subjects. USPTO # 6,270,758. Filed October 8, 1998, Issued August 7, 2001. Inventors: Herman F. Staats, Barton F. Haynes, Dhavalkumar D. Patel and Gregory D. Sempowski.
2. Interleukin-1 muteins useful as vaccine adjuvants. USPTO # 6,656,462. Filed December 4, 2000, Issued December 2, 2003. Inventors: Richard S. Dondero and Herman F. Staats
3. Substantially non-toxic biologically active mucosal adjuvants in vertebrate subjects. USPTO # 7,041,294. Filed June 5, 2001. Issued May 9, 2006. Inventors: Herman F. Staats, Barton F. Haynes, Dhavalkumar D. Patel and Gregory D. Sempowski.

## Patents

### Pending:

1. A novel adjuvant capable of specifically activating the adaptive immune response. Salvatore V. Pizzo, Justin P. Hart, James B. McLachlan, Herman F. Staats, and Soman N. Abraham. United States Patent Application #20050031630.
2. Interleukin-1 muteins useful as vaccine adjuvants. Richard S. Dondero and Herman F. Staats. United States Patent Application #20040253208
3. Interleukin-1 muteins useful as vaccine adjuvants. Richard S. Dondero and Herman F. Staats. United States Patent Application # 20010036452.

## Research Interests

Mucosal immunology/mucosal vaccines.

Development of adjuvants and immunization methods for use with nasally-administered vaccines.

Understanding the mechanism of action of nasal vaccine adjuvants.

## BIBLIOGRAPHY

### Articles (Peer Review)

1. Lausch, R.N., H. Staats, J.F. Metcalf, and J.E. Oakes. 1990. Effective antibody therapy in herpes simplex virus ocular infection. Characterization of recipient immune response. *Intervirology* 31:159-165.
2. Lausch, R.N., H. Staats, J.E. Oakes, G.H. Cohen, and R.J. Eisenberg. 1991. Prevention of herpes keratitis by monoclonal antibodies specific for discontinuous and continuous epitopes on glycoprotein D. *Invest. Ophthalmol. Vis. Sci.* 32:2735-2740.
3. Staats, H.F., J.E. Oakes, and R.N. Lausch. 1991. Anti-glycoprotein D monoclonal antibody protects against herpes simplex virus type 1-induced diseases in mice functionally depleted of selected T-cell subsets or asialo GM1+ cells. *J. Virol.* 65:6008-6014.
4. Xu-Amano, J., H. Kiyono, R.J. Jackson, H.F. Staats, K. Fujihashi, P.D. Burrows, C.O. Elson, S. Pillai, and J.R. McGhee. 1993. Helper T cell subsets for immunoglobulin A responses: oral immunization with tetanus toxoid and cholera toxin as adjuvant selectively induces Th2 cells in mucosa associated tissues. *J Exp Med* 178:1309-1320.
5. Staats, H.F., and R.N. Lausch. 1993. Cytokine expression in vivo during murine herpetic stromal keratitis. Effect of protective antibody therapy. *J.Immunol.* 151:277- 283.
6. Xu-Amano, J., R.J. Jackson, K. Fujihashi, H. Kiyono, H.F. Staats, and J.R. McGhee. 1994. Helper Th1 and Th2 cell responses following mucosal or systemic immunization with cholera toxin. *Vaccine* 12:903-911.
7. Horowitz, N.S., H.F. Staats, and T.J. Palker. 1995. Effect of bismuth salts on systemic and mucosal immune responses to orally administered cholera toxin. *Immunopharmacol.* 31:31-41.
8. Marinaro, M., H.F. Staats, T. Hiroi, R.J. Jackson, M. Coste, P.N. Boyaka, N. Okahashi, M. Yamamoto, H. Kiyono, H. Bluethmann, K. Fujihashi, and J.R. McGhee. 1995. Mucosal adjuvant effect of cholera toxin in mice results from induction of T helper 2 (Th2) cells and IL-4. *J. Immunol.* 155:4621-4629.
9. Takahashi, I., H. Kiyono, R.J. Jackson, K. Fujihashi, H.F. Staats, S. Hamada, J.D. Clements, K.L. Bost, and J.R. McGhee. 1996. Epitope maps of the Escherichia coli heat-labile toxin B subunit for development of a synthetic oral vaccine. *Infect. Immun.* 64:1290-1298.
10. Palker, T.J., A.J. Muir, D.E. Spragion, H.F. Staats, A. Langlois, and D.C. Montefiori. 1996. The V3 domain of SIVmac251 gp120 contains a linear neutralizing epitope. *Virology* 224:415-426.
11. Staats, H. F., W. G. Nichols, and T. J. Palker. 1996. Mucosal immunity to HIV-1: systemic and vaginal antibody responses after intranasal immunization with the HIV-1 C4/V3 peptide T1SP10 MN(A). *J. Immunol.* 157:462-472.
12. VanCott, J.L., H.F. Staats, D.W. Pascual, M. Roberts, S.N. Chatfield, M. Yamamoto, M. Coste, P.B. Carter, H. Kiyono, and J.R. McGhee. 1996. Regulation of mucosal and systemic antibody responses by T helper cell subsets, macrophages, and derived cytokines following oral immunization with live recombinant Salmonella. *J.Immunol.* 156:1504- 1514.
13. Staats, H.F., S.P. Montgomery, and T.J. Palker. 1997. Intranasal Immunization Is Superior to Vaginal, Gastric, or Rectal Immunization For the Induction of Systemic and Mucosal Anti-Hiv Antibody Responses. *AIDS Res. Hum. Retroviruses* 13:945-952.

14. Porgador, A., **H.F. Staats**, B. Faiola, E. Gilboa, and T.J. Palker. 1997. Intranasal immunization with CTL epitope peptides from HIV-1 or ovalbumin and the mucosal adjuvant cholera toxin induces peptide-specific CTLs and protection against tumor development in vivo. *J. Immunol.* 158:834-841.
15. Lee, D.M., **H.F. Staats**, J.S. Sundy, D.D. Patel, G.D. Sempowski, R.M. Searce, D.M. Jones, and B.F. Haynes. 1998. Immunologic Characterization of CD7-Deficient Mice. *J. Immunol.* 160:5749-5756.
16. Porgador, A., **H.F. Staats**, Y. Itoh, and B.L. Kelsall. 1998. Intranasal immunization with cytotoxic T-lymphocyte epitope peptide and mucosal adjuvant cholera toxin: selective augmentation of peptide-presenting dendritic cells in nasal mucosa-associated lymphoid tissue. *Infect. Immun.* 66:5876-5881.
17. Bartlett, J.A., S.S. Wasserman, C.B. Hicks, R.T. Dodge, K.J. Weinhold, C.O. Tacket, N. Ketter, A.E. Wittek, T.J. Palker, B.F. Haynes, M. Enama, K. Muth, S. Beckner, E. Yu, C. Berend, T. Matthews, **H. Staats**, R. Searce, M.A. Moody, D. Spragion, K. Shipp, L. Stewart, L. Fox, A. Shaver, D. Stein, and J. Pelosi. 1998. Safety and immunogenicity of an HLA-based HIV envelope polyvalent synthetic peptide immunogen. *AIDS* 12:1291-1300.
18. **Staats, H.F.**, and F.A. Ennis. 1999. IL-1 is an effective adjuvant for mucosal and systemic immune responses when co-administered with protein immunogens. *J. Immunol.* 162:6141-6147.
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51. S. K. Nordone and H. F. Staats. Capric Acid and Hydroxypropylmethylcellulose Enhance the Immunogenicity of a Nasally Administered HIV Vaccine. Presented at AIDS Vaccine 2003, New York, NY.
52. H. F. Staats. Serum IgG and Vaginal IgA Induced by Subcutaneous or Nasal Immunization Recognize Distinct Epitopes in HIV-1 gp41. Presented at AIDS Vaccine 2003, New York, N.Y.
53. J. W. Peacock, S. S. Jackson, H-X. Liao, N. L. Letvin, A. Gomez Yafal, L. Gritz, G. P. Mazzara, B. F. Haynes and H. F. Staats. Route of immunization as a determinant of optimal induction of HIV-1 specific lymphocytes in the female reproductive tract. Presented at the FASEB meeting as a late breaker poster, April 2004, Washington, DC.
54. H. F. Staats. Effective adjuvant activity for nasally-administered vaccines in the absence of an adjuvant-responsive epithelium. Presented at the Modern Vaccine/Adjuvant Formulation. Radisson SAS Hotel, Prague, Czech Republic 15-17 September 2004.
55. J. B. McLachlan, H. F. Staats, J. P. Hart, S. V. Pizzo, C. P. Shelburne, R. Goyal and S. N. Abraham. A mast cell activator with potent mucosal and systemic vaccine adjuvant activity when delivered intranasally. Presented at the Modern Vaccine/Adjuvant Formulation. Radisson SAS Hotel, Prague, Czech Republic 15-17 September 2004.
56. H. F. Staats, M. Alam, R. Searce and B. F. Haynes. Inhibition of protective lethal toxin passive immunotherapy by antibody antagonism. Presented at the SERCEB Annual Meeting, Oct. 20-22, 2004.
57. H. F. Staats, M. Alam, R. Searce and B. F. Haynes. Antibody Inhibition of protective immunotherapy. Presented at the 2<sup>nd</sup> Annual RCE Meeting, March 13-15, 2005, Galveston, TX.
58. D. W. Pascual, H. Staats, D. Mierzejewska, T. Hoyt, A. Robinson, K. Fujihashi, and M. Maddaloni. Mucosal vaccine targeting circumvents the use of adjuvant for development of mucosal immunity to botulinum neurotoxin A (BoNT/A). 2005. 12th International Congress of Mucosal Immunology, #53587.
59. J. M. Thompson, H. F. Staats, and R. E. Johnston. Systemic and Mucosal Adjuvant Activity of Venezuelan Equine Encephalitis Virus Replicon Particles. Presented at the American Society for Virology Annual Meeting, 18-22 June 2005 - Penn State University, University Park, PA.
60. J.-S. Yu, J. W. Peacock, S. Vanleeuwen, W. R. Jacobs, Jr., R. Frothingham, H. Staats, H.-X. Liao, and B. F. Haynes. Generation of Mucosal Cell Responses by Recombinant *Mycobacteria* Vectors. Presented as a poster at the SERCEB Annual Meeting - October 9-11, 2005 in Chapel Hill, NC.
61. H. F. Staats, S. M. Kirwan, M. Alam, R. Searce and B. F. Haynes. Neutralization of anthrax lethal toxin in vitro by anti-PA and anti-LF monoclonal antibodies. Presented as a poster at the SERCEB Annual Meeting - October 9-11, 2005 in Chapel Hill, NC.
62. L. Pons, A.D. Buchanan, P.H. Steele, H.F. Staats and A.W. Burks. CD4+CD25<sup>high</sup> T Regulatory Cells in Egg-Allergic Children Undergoing Oral Desensitization. Journal of Allergy and Clinical Immunology, Volume 117, Issue 2, Supplement 1, February 2006, Page S42.
63. N.A. Paraggio, A. McGowen, A. E. Sobel, S.M. Kirwan, C. P. Shelburne, S.V. Pizzo, S.N. Abraham and H. F. Staats. Mast cell activators are potent adjuvants for mucosal and systemic anthrax vaccines. To be presented as a poster at the ASM Biodefense Research Meeting; February 16-18, 2007.





**TEACHING**  
**(Supplemental Form)**

**Formal Scheduled Classes**

<b>Date</b>	<b>Course</b>	<b>Contribution</b>
1998 - Present:	Duke University <i>Immunology 291</i>	2 lectures/course on mucosal immunology
2000 - Present:	Duke University <i>Pathology 385</i>	1-2 lecture/course on vaccine immunology
2005 – Present:	Duke University School of Medicine, <i>Body and Disease Course</i>	1 lecture on Bioterrorism and Emerging Infections

**Graduate School Courses DUMC**

1998 - Present: Lecturer, Duke University *Immunology 291*  
2000 - Present: Lecturer, Duke University *Pathology 385*

**Other teaching**     Laboratory instruction in mucosal immunology/vaccine research.

**Summary of Teaching Hours**

- 3-4 hours per year classroom lectures
- 10 hours per year thesis committee participation
- Up to 20 hours per week laboratory instruction